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[Name of Document] SPECIFICATION

[Title of the Invention] SEMICONDUCTOR DEVICE AND METHOD OF  
MANUFACTURING THE SAME

[Claim for a Patent]

[Claim 1] A semiconductor device, comprising at least:  
a semiconductor region;  
a boron-doped phosphorus silicate glass (BPSG) film  
formed over the semiconductor region; and  
an oxide film containing nitrogen formed between the  
semiconductor region and the boron-doped phosphorus silicate  
glass film.

[Claim 2] The semiconductor device according to claim 1,  
having a maximum value that a nitrogen concentration  
distribution in a thickness direction of the oxide film is set  
to a maximum value.

[Claim 3] A method for manufacturing a semiconductor device,  
comprising at least the steps of:  
forming an oxide film containing nitrogen over a  
semiconductor region;  
forming a boron-doped phosphorus silicate glass film over  
the oxide film; and  
heat-treating the boron-doped phosphorus silicate glass  
film in an oxidizing atmosphere.

[Claim 4] A method for manufacturing a semiconductor device  
according to claim 3, wherein a dinitrogen monoxide ( $N_2O$ ) gas  
or a nitric monoxide (NO) gas is used in the step of forming  
the oxide film.

[Detailed Description of the Invention]